

## **Definitions in Emergency Management**

The following are definitions of commonly used terms in Emergency Management that are also referred to in the City of Redmond HIVA and Hazard Mitigation Strategy.

**Base Flood:** A term used in the National Flood Insurance Program to indicate the minimum size flood to be used by a community as a basis for its floodplain management regulations; presently required by regulation to be "that flood which has a one-percent chance of being equaled or exceeded in any given year." Also known as a 100-year flood.

**Beaufort Scale:** Numerical scale from 0 to 12, indicating wind force.

0-calm	7-strong wind
1-light air	8-gale
2-light breeze	9-strong gale
3-gentle breeze	10-storm
4-moderate breeze	11-violent storm
5-fresh breeze	12-hurricane
6-strong breeze (Reference Center 1998)	

**Catastrophe:** A disaster that is of such a magnitude that the survival of the community is drawn into question or where the community did not survive the event.

**Disaster:** Any occurrence that causes damage, ecological disruption, loss of human lives, and deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community. (World Health Organization)

**Drought:** Prolonged absence or marked deficiency of precipitation. (2) Period of abnormally dry weather sufficiently prolonged for the lack of precipitation to cause a serious hydrological imbalance (WMO 1992, 198).

**Emergency:** An event, expected or unexpected, which places life and/or property in danger and requires an immediate response through the use of routine community resources and procedures (Drabek, Social Dimensions of Disaster Course).

**Emergency Assistance:** Assistance that may be made available under an emergency declaration. In general, federal support to state and local efforts to save lives, protect property and public health and safety, and lessen or avert the threat of a disaster. Federal emergency assistance may take the form of coordinating all disaster relief assistance (including voluntary assistance) provided by federal agencies, private organizations, and state and local governments.

**Emergency Management:**

1. Organized analysis, planning, decision-making, and assignment of available resources to mitigate (lessen the effect of or prevent), prepare for, respond to, and recover from the effects of all hazards. The goal of emergency management is to save lives, prevent injuries, and protect property and the environment if an emergency occurs (FEMA 1995, I-6).

2. "A comprehensive system of policies, practices, and procedures designed to protect people and property from the effects of emergencies or disasters. It includes programs, resources, and capabilities to mitigate against, prepare for, respond to, and recover from effects of all hazards" (Michigan DEM 1998, 6).

*Emergency Operations Center (EOC):* A designated site from which government officials can coordinate disaster response and recovery operations.

*Federal Emergency Management Agency (FEMA):* Agency created in 1979 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery. Federal Emergency Management Agency manages the President's Disaster Relief Fund and coordinates the disaster assistance activities of all federal agencies in the event of a Presidential Disaster Declaration.

*Flood:*

*One-Hundred Year (100-Year) Floodplain:* The land area adjoining a river, stream, lake, or ocean which is inundated by the 100-year flood; also referred to as a flood having a one percent chance of occurring in any given year. The 100-year flood is the regulatory (base) flood under the NFIP (FEMA 1990).

*Five-Hundred Year Floodplain (or 0.2 percent chance floodplain):* That area which includes the base floodplain, which is subject to inundation from a flood having a 0.2 percent chance of being equaled or exceeded in any given year.

*Flash Flood:* A flood that crests in a short period of time and is often characterized by high velocity flow; often the result of heavy rainfall in a localized area.

*Hazard:* An event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss (FEMA 1997).

*Hazard Analysis:* Involves identifying all of the hazards that potentially threaten a jurisdiction and analyzing them in the context of the jurisdiction to determine the degree of threat that is posed by each (FEMA 1997).

*Hazard Assessment:* (Sometimes Hazard Analysis/Evaluation) The process of estimating, for defined areas, the probabilities of the occurrence of potentially damaging phenomenon of given magnitudes within a specified period of time. Hazard assessment involves analysis of formal and informal historical records and skilled interpretation of existing topographical, graphical, geological, geomorphologic, hydrological, and land-use maps (Simeon Institute 1998).

*Hazard Identification:* Hazard Identification locates hazardous areas, often estimates the probability of hazardous events of various magnitudes, and sometimes assesses the separate characteristics of the hazards (i.e., for hurricanes: wind, high water, and wave action) (Godschalk, Kaiser, and Berke, 1998, 98).

*Hazard Mitigation:* Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment (U.N. 1992, 41).

*Hazard Rating:* An adjective description (High, Medium, or Low) of the overall threat posed by a hazard over the next 25 years. It is a subjective estimate of the combination of severity, location, and frequency (probability of occurrence).

*High:* There is strong potential for a disaster of major proportions during the next 25 years or History suggests the occurrence of multiple disasters of moderate proportions during the next 25 years. The threat is significant enough to warrant major program effort to prepare for, respond to, recover from, and mitigate against this hazard. This hazard should be a major focus of the county's emergency management training and exercise program.

*Medium:* There is moderate potential for a disaster of less than major proportions during the next 25 years. The threat is great enough to warrant modest effort to prepare for, respond to, recover from, and mitigate against this hazard. This hazard should be included in the county's emergency management training and exercise program.

*Low:* There is little potential for a disaster during the next 25 years. The threat is such as to warrant no special effort to prepare for, respond to, recover from, or mitigate against this hazard. This hazard need not be specifically addressed in the county's emergency management training and exercise program except as generally dealt with during hazard awareness training.

*Hazardous Material (HAZMAT):* Any material, which is explosive, flammable, poisonous, corrosive, reactive, or radioactive (or any combination) and requires special care in handling because of the hazards posed to public health, safety, and/or the environment (Firescope 1994).

*Human-Made Disasters:* Disasters or emergency situations where the principal, direct cause(s) are identifiable human actions, deliberate or otherwise. Apart from "technological" and "ecological" disasters, this mainly involves situations in which civilian populations suffer casualties, losses of property and basic services, and means of livelihood as a result of war or civil strife. For example, human-made disasters/emergencies can be of the rapid or slow onset types, and in the case of internal conflict, can lead to "complex emergencies" as well. "Human-made disaster" acknowledges that all disasters are caused by humans because they have chosen, for whatever reason, to be where natural phenomena occurs that result in adverse impacts of people. This mainly involves situations in which civilian populations suffer casualties, losses of property and basic services, and means of livelihood as a result of war, civil strife, or other conflict (Simeon Institute).

*Intensity:* Refers to the damage-generating attributes of a hazard. For example, water depth and velocity are commonly used measures of the intensity of a flood. For hurricanes, intensity typically is characterized with the Saffir/Simpson scale, which is based on wind velocity and storm surge depth. Its Richter magnitude (and other similar magnitude scales) gives the absolute size of an earthquake, but the Modified Mercalli Intensity (MMI) Scale describes its effects in specific locations. Earthquake intensity is also ascertained by physical measures such as peak ground acceleration (expressed as a decimal fraction of the force of gravity, i.e., 0.4 g), peak velocity, or spectral response, which characterizes the frequency of the energy content of the seismic wave (Deyle, French, Olshansky, and Paterson 1998, 124).

*Mitigation:* Activities aimed at eliminating or reducing the occurrence of a disaster and reducing the effects of unavoidable disasters (FEMA, 2001).

*Presidential Declaration:* Formal declaration by the President that an emergency or major disaster exists, based upon the request for such a declaration by the Governor and with the verification of Federal Emergency Management Agency preliminary damage assessments.

**Mitigation:** All steps necessary to minimize the potentially adverse effects of the proposed action and to restore, preserve, and enhance natural values of wetlands, or long-term activities to minimize the potentially adverse effects of future disaster in affected areas (FEMA 1996).

**Natural Disaster:** Any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, or other catastrophe in any part of the United States which causes, or which may cause, substantial damage or injury to civilian property or persons (Stafford Act).

**Preliminary Damage Assessment (PDA):** A process used to determine the impact and magnitude of damage and the resulting unmet needs of individuals, businesses, the public sector, and the community as a whole. Information collected as a result of the PDA process is used by the state as a basis for the Governor's request for federal assistance under the Stafford Act, and by FEMA to document the recommendation made to the President in response to the Governor's request (44 CFR 206.33).

**Preparedness:**

1. Actions taken in advance of an emergency to develop operational capabilities and facilitate an effective response in the event an emergency occurs. Preparedness measures include, but are not limited to, continuity of government, emergency alert systems, emergency communications, emergency operations centers, emergency operations plans, emergency public information materials, exercise of plans, mutual aid agreements, resource management, training response personnel, and warning systems.
2. Simply preparing for an emergency before it occurs. Obviously, it is important to not just plan but to prepare as well. The key to effective emergency management is being ready to provide a rapid emergency response. Being ready includes training and exercises as well as logistics. Government agencies at all levels have an obligation to prepare themselves and the public for emergencies. Community groups, service providers, businesses, and civic and volunteer groups are all partners in this effort.

**Recovery:** Activities traditionally associated with providing federal supplemental disaster recovery assistance under a presidential major disaster declaration. These activities usually begin within days after the event and continue after the response activities cease. Recovery includes individual and public assistance programs, which provide temporary housing assistance, grants, and loans to eligible individuals and government entities to recover from the effects of a disaster (FRP Appendix B).

**Response:** Activities to address the immediate and short-term effects of an emergency or disaster. Response includes immediate actions to save lives, protect property, and meet basic human needs. Based on the requirements of the situation, response assistance will be provided to an affected state under the Federal Response Plan using a partial activation of selected Emergency Support Functions (ESF's) or the full activation of all 12 ESF's to meet the needs of the situation (FRP Appendix B).

**Risk:** The exposure to the chance of loss. The combination of the probability of an event occurring and the significance of the consequence (impact) of the event occurring (George Washington University, May 2003).

**Risk Analysis:** The determination of the likelihood of an event occurring (probability) and the consequences of its occurrence (impact) for the purpose of comparing possible risks and making risk management decisions (George Washington University, May 2003).

**Risk Assessment:** (sometimes Risk Analysis) The combination of vulnerability analysis and risk analysis. The determination and presentation (usually in quantitative form) of the potential hazards and the likelihood and the extent of harm that may result from these hazards (George Washington University, May 2003).

**Risk Management:** "Public risk management is a process used to decide what to do where a risk has been determined to exist. It involves identifying the level of tolerance the community has for a specific risk or set of risks and determines what risk assessment options are acceptable within a social, economic, cultural, and political context. To achieve this, the process must be open since it has to factor in benefits, costs of control, and any statutory or socially approved requirements needed to manage the risk. Hence, it requires communicating and consulting with the public-at-large either directly or through appropriate representation as well as with specialists (Britton 1998, 1).

**Risk Reduction:** Long-term measures to reduce the scale and/or the duration eventual adverse effects of unavoidable or unpreventable disaster hazards on a society which is at risk, by reducing the vulnerability of its people, structures, services, and economic activities to the impact of known disaster hazards. Typical risk reduction measures include improved building standards, flood plain zoning and land-use planning, crop diversification, and planting windbreaks. The measures are frequently subdivided into "structural" and "non-structural," "active" and "passive" measures. N.B. A number of sources have used "disaster mitigation" in this context, while others have used "disaster prevention" (Simeon Institute 1992).

**Recovery:** Activity to return vital life support systems to minimum operating standards and long-term activity designed to return life to normal or improved levels, including some form of economic viability. Recovery measures include, but are not limited to, crisis counseling, damage assessment, debris clearance, decontamination, disaster application centers, disaster insurance payments, disaster loans and grants, disaster unemployment assistance, public information, reassessment of emergency plans, reconstruction, temporary housing, and full-scale business resumption.

**Response:** Actions taken immediately before, during, or directly after an emergency occurs to save lives, minimize damage to property and the environment, and enhance the effectiveness of recovery. Response measures include, but are not limited to, emergency plan activation, emergency alert system activation, emergency instructions to the public, emergency medical assistance, staffing the emergency operations center, public official alerting, reception and care, shelter and evacuation, search and rescue, resource mobilization, and warning systems activation.

**Sustainable Development:** "In its broader sense, sustainability is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In the context of emergency management, this meaning remains, and it is linked to creating places that are less vulnerable to natural and technological hazards and that are resilient to those events. Sustainable hazard management has five components: environmental quality, quality of life, disaster resilience, economic vitality, and inter- and intra-generational equity. Reducing the risk from hazards, reducing losses from disasters and working toward sustainable communities go hand-in-hand" (Britton 1998, 1).

**Vulnerability:** Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another (FEMA, 2001).

*Vulnerability Analysis:* A compilation of information that allows for the determination of the possible hazards that may cause harm, taking into account each hazard that has been identified.

*Vulnerability Assessment:* Vulnerability assessment, the second level of hazard assessment, combines the information from the hazard identification with an inventory of the existing (or planned) property and population exposed to a hazard. It provides information on who and what are vulnerable to a natural hazard within the geographic areas defined by hazard identification. Vulnerability assessment can also estimate damage and casualties that will result from various intensities of the hazard (Deyle et al. 1998, 129).

*Vulnerability Rating:*

*High:* The total population, property, commerce, infrastructure, and services of the county are uniformly exposed to the effects of a hazard of potentially great magnitude. In a worse case scenario, there could be a disaster of major to catastrophic proportions.

*Medium:* The total population, property, commerce, infrastructure, and services of the county are exposed to the effects of a hazard of moderate influence; or

The total population, property, commerce, infrastructure and services of the county are exposed to the effects of a hazard but not all to the same degree; or

An important segment of population, property, commerce, infrastructure, or service is exposed to the effects of a hazard. In a worse case scenario, there could be a disaster of moderate to major, though not catastrophic, proportions.

*Low:* A limited area or segment of population, property, commerce, infrastructure, or service is exposed to the effects of a hazard. In a worse case scenario, there could be a disaster of minor to moderate proportions.